

The Faculty for Mathematics and Informatics
of the Bayerische Julius-Maximilians-Universität Würzburg
invites to the inaugural lecture
of

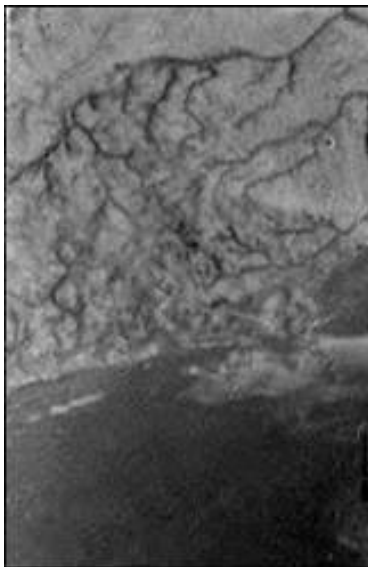
Prof. Dr. Klaus Schilling
Informatik VII: Robotics and Telematics

about the topic

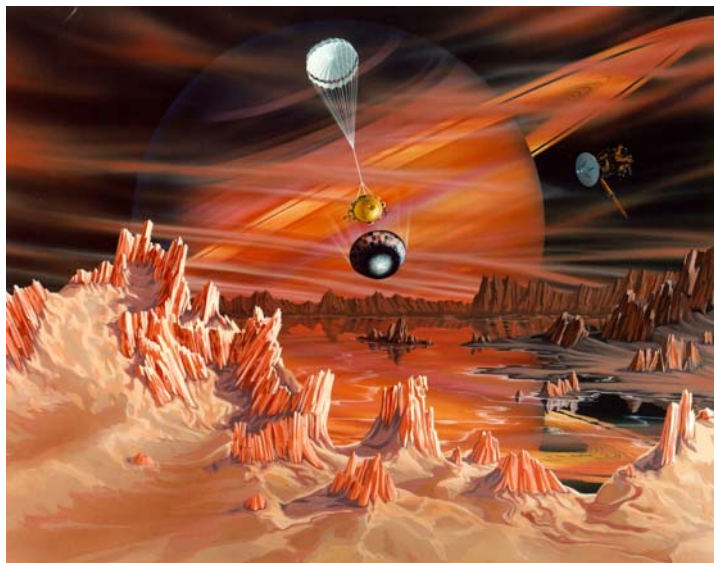
Information Processing at Saturn : Control of the Space Probe Cassini/Huygens

on Thursday, 10. February 2005, 17:00

Location: Zuse-lecture hall in the Informatics building, Am Hubland



The surface of Titan at 14.1.2005



The landing of „Huygens“ in the view of a painter Source:ESA/NASA

In July 2004, after a travel of 7 years the Cassini/Huygens-spacecraft of NASA/ESA arrived at Saturn, and delivers since then interesting images and measurements from Saturn, his rings and his more than 30 moons. At 14. January 2005 the descent probe „Huygens“, built in European industry, entered the atmosphere of Titan, the largest moon of Saturn and explored very successfully this amazing atmosphere, in which the existence of organic molecules has been proven earlier.

The seminar presents challenging technology approaches to enable this mission, but also recent fascinating images of this remote, bizarre world of Titan: with rivers and lakes made of Methane. The atmosphere of Titan was only poorly known before; therefore in particular the descent of the Huygens Probe raised interesting technology challenges to autonomous reaction capabilities. As the signals require 67 Minutes to transfer the distance between Titan and Earth, the on-board data processing system had to control the parachute descent system autonomously. An adaptive control scheme used the measured atmospheric characteristics in order to time control actions to land the Huygens Probe in time on the surface of Titan.

A survey on the application potential of such adaptive control approaches in industrial production and for mobile robots concludes this presentation.

From 16.30 Uhr coffee and tea are offered in room B 202 in the Informatics Building, Am Hubland.

H.-G. Weigand, Dean